AMENDMENTS

Please amend the claims as follows:

1. (currently amended) A global positioning system (GPS) measurement system for determining a position of an object connected with the measurement system, the measurement system comprising:

a plurality of antennas; and

a GPS receiver having:

a plurality of primary filters, one primary filter for each antenna of the plurality of antennas, each filter operable to obtain information from a respective one of the plurality of antennas at a primary frequency associated with a first satellite frequency; and

a fewer number of secondary filters than primary filters, the secondary filters operable to obtain information from the plurality of antennas at one or more secondary frequencies associated with one or more different satellite frequencies than the first satellite frequency, the secondary filter connectable with the plurality of antennas.

2. (original) The system of Claim 1 wherein the fewer number of secondary filters comprises a single secondary filter.

3. (original) The system of Claim 1 wherein the fewer number of secondary filters comprises at least two secondary filters and the plurality of primary filters comprises at least three primary filters, each of the primary filters connected with a different one of at least three antennas.

4. (currently amended) A measurement system for determining a position of an object connected with the measurement system, the measurement system comprising:

a plurality of antennas;

a plurality of primary filters, one primary filter for each antenna of the plurality of antennas, each filter operable to obtain information from a respective one of the plurality of antennas at a primary frequency associated with a first satellite frequency; and

a fewer number of secondary filters than primary filters, the secondary filters operable to obtain information from the plurality of antennas at one or more secondary frequencies associated with one or more different satellite frequencies than the first satellite frequency, the secondary filter connectable with the plurality of antennas;

wherein the fewer number of secondary filters equals a number of secondary frequencies.

5. (original) The system of Claim 4 wherein the plurality of antennas are operable to receive RF signals with information at three frequencies, the primary frequency, a first secondary frequency and a second secondary frequency, the fewer number being two.

6. (previously presented) A measurement system for determining a position of an object connected with the measurement system, the measurement system comprising:

a plurality of antennas;

a plurality of primary filters, one primary filter for each antenna of the plurality of antennas, each filter operable to obtain information from a respective one of the plurality of antennas at a primary frequency; and

a fewer number of secondary filters than primary filters, the secondary filters operable to obtain information from the plurality of antennas at one or more secondary frequencies, the secondary filter connectable with the plurality of antennas;

wherein the plurality of antennas are operable to receive RF signals from satellites, the primary frequency being L1 and the secondary frequency being L2 or L5.

7. (original) The system of Claim 1 further comprising a multiplexer connected between the plurality of antennas and at least one of the secondary filters, the multiplexer operable to switch between individual ones of the plurality of antennas and output the selected one to the secondary filter.

8. (original) The system of Claim 7 further comprising a plurality of primary RF sections, the primary RF sections comprising the primary filters and the primary RF sections operable to down convert and sample the information at the primary frequency, the secondary

filters comprise secondary RF sections operable to down convert and sample the information at the secondary frequencies;

further comprising:

a plurality of RF splitters, each of the RF splitters connected with a respective one of the plurality of antennas, a respective one of the plurality of primary RF sections and the multiplexer;

at least one correlator operable to derive code phase and carrier phase for the information at the primary frequency and carrier phase for information at the secondary frequency; and

a processor connected with the at least one correlator, the processor operable to resolve carrier cycle ambiguity for the information at the primary frequency and operable to obtain a position of the plurality of antennas as a function of the code phase and carrier phase of the information at the primary frequency.

9. (original) The system of Claim 1 further comprising:

a processor operable to obtain position information as a function of the information at the primary frequency and the information at the secondary frequency.

10. (currently amended) The system of Claim 9 wherein the processor is operable to resolve carrier cycle ambiguities for the information at the primary frequency with ~~at least one of~~ an inter- ~~and~~ or intra- platform processing algorithm.

11. (original) The system of Claim 9 wherein the processor is operable to cross-correlate the information at the secondary frequency with the information at the primary frequency.

12. (original) The system of Claim 9 wherein the processor is operable to reconstruct a carrier phase for the information at the secondary frequency antennas as a function of a carrier phase of the information at the primary frequency.

13. (currently amended) A measurement system for determining a position of an object connected with the measurement system, the measurement system comprising:

a plurality of antennas;

a plurality of radio or intermediate frequency primary filters, one primary filter for each antenna of the plurality of antennas, each filter operable to obtain information from a respective one of the plurality of antennas at a primary frequency;

a fewer number of radio or intermediate frequency secondary filters than primary filters, the secondary filters operable to obtain information from the plurality of antennas at one or more secondary frequencies, the secondary filter connectable with the plurality of antennas; and

a processor operable to obtain position information as a function of samples of the information at the primary frequency and the information at the secondary frequency[[.]];

wherein the processor is operable to determine a position as a function of as a function of code phase and carrier phase of the information at the primary and secondary frequencies.

14. (original) The system of Claim 1 further comprising:

a plurality of primary RF sections, each primary RF section comprising one of the plurality of primary filters;

a secondary RF section, the secondary RF section comprising one of the fewer number of secondary filter; and

a clock common to the plurality of primary and secondary RF sections.

15. (currently amended) A measurement system for tracking, the measurement system comprising:

a plurality of antennas operable to receive global positioning system (GPS) RF signals, the GPS RF signals comprising first and second satellite frequency signals;

a plurality of first frequency RF sections operable to obtain the first satellite frequency signals from the GPS RF signals, each of the plurality of first frequency RF sections connected with a respective one of the plurality of antennas; and

a second RF section operable to obtain the second satellite frequency signals from the GPS RF signals from at least two of the antennas.

16. (currently amended) The system of Claim 15 wherein the plurality of antennas comprises at least three antennas, wherein the plurality of first frequency RF sections

comprises at least three first frequency RF sections, and wherein the GPS RF signals comprise third frequency signals; and

~~and~~ wherein the system further comprises a third RF section operable to obtain the third frequency signals from the GPS RF signals from at least two of the antennas.

17. (previously presented) A measurement system for tracking, the measurement system comprising:

a plurality of antennas operable to receive RF signals, the RF signals comprising first and second frequency signals;

a plurality of first frequency RF sections operable to obtain the first frequency signals from the RF signals, each of the plurality of first frequency RF sections connected with a respective one of the plurality of antennas; and

a second RF section operable to obtain the second frequency signals from the RF signals from at least two of the antennas;

wherein the plurality of antennas are operable to receive the RF signals from satellites, the first frequency being L1 and the second frequency being L2 or L5.

18. (original) The system of Claim 15 further comprising a multiplexer connected between the plurality of antennas and the second RF section, the multiplexer operable to switch between individual ones of the at least two antennas and output the selected ones to the second RF section in time multiplexed format.

19. (original) The system of Claim 18 wherein the first RF sections comprise primary RF sections operable to down convert and sample the information at the first frequency, the first frequency being a primary frequency, wherein the second RF section comprises a secondary RF section operable to down convert and sample the information at the second frequency, the second frequency being a secondary frequency;

and wherein the system further comprises a plurality of RF splitters, each RF splitter connected with a respective one of the plurality of antennas, a respective one of the plurality of primary RF sections and the multiplexer;

at least one correlator operable to derive code phase and carrier phase for both the information at the primary frequency and information at the secondary frequency; and

a processor connected with the at least one correlator, the processor operable to resolve carrier cycle ambiguity for the information at the primary frequency and operable to obtain a position as a function of the code phase and carrier phase of the information at the primary frequency.

20. (original) The system of Claim 19 wherein the processor is connected with the multiplexer.

21. (original) The system of Claim 15 further comprising:

a processor operable to obtain position information as a function of code phase and carrier phase information at the first frequency and carrier phase information at the second frequency.

22. (original) The system of Claim 21 wherein the processor is operable to resolve carrier cycle ambiguities for the information at the primary frequency with one of an inter- and intra- platform processing algorithm.

23. (original) The system of Claim 21 wherein the processor is operable to cross-correlate the information at the second frequency with the information at the first frequency.

24. (original) The system of Claim 21 wherein the processor is operable to reconstruct a carrier phase at the second frequency as a function of a carrier phase of the information at the first frequency.

25. (original) The system of Claim 15 further comprising:

a clock common to the plurality of first RF sections and the second RF section.

26. (previously presented) The system of Claim 15 wherein the plurality of antennas comprises three antennas, the plurality of first RF sections comprises three first filters connected with the three antennas, respectively, and the second RF section is operable to obtain the second frequency signals from the GPS RF signals from the three antennas.

27. (previously presented) A method for determining a position of an object connected with a plurality of antennas, the method comprising:

(a) obtaining information at a primary frequency from received global positioning system (GPS) RF signals at each of the plurality of antennas with separate filters for each of the plurality of antennas; and

(b) obtaining information at a secondary frequency from the received GPS RF signals at each of the plurality of antennas with a common filter multiplexed with each of the plurality of antennas.

28. (original) The method of Claim 27 wherein the plurality of antennas comprises all the antennas and wherein (b) comprises obtaining information at the secondary frequency from all of the antennas with the common filter.

29. (previously presented) A method for determining a position of an object connected with a plurality of antennas, the method comprising:

(a) obtaining information at a primary frequency from received RF signals at each of the plurality of antennas with separate filters for each of the plurality of antennas;

(b) obtaining information at a secondary frequency from the received RF signals at each of the plurality of antennas with a common filter multiplexed with each of the plurality of antennas; and

(c) receiving the RF signals from satellites, the primary frequency being L1 and the secondary frequency being L2 or L5.

30. (previously presented) The method of Claim 27 further comprising:

(c) time division multiplexing the GPS RF signals from the plurality of antennas to the common filter.

31. (previously presented) The method of Claim 30 further comprising:

(d) splitting the GPS RF signals from the plurality of antennas to separately perform (a) and (c);

(e) down converting and sampling the information at the primary frequency;

(f) down converting and sampling the information at the secondary frequency;

(g) obtaining a primary code phase and a primary carrier phase from the information at the primary frequency;

(h) obtaining a secondary carrier phase from the information at the secondary frequency; and

(i) obtaining the position as a function of the primary code phase, primary carrier phase and the secondary carrier phase.

32. (original) The method of Claim 30 further comprising:

(d) obtaining position information as a function of the information at the primary frequency and the information at the secondary frequency.

33. (original) The method of Claim 32 wherein (d) comprises resolving carrier cycle ambiguities for the information at the primary frequency with a carrier phase of the information at the primary frequency and a carrier phase of the information at the secondary frequency.

34. (original) The method of Claim 32 wherein (d) comprises cross-correlating the information at the secondary frequency with the information at the primary frequency.

35. (original) The method of Claim 32 wherein (d) comprises reconstructing a carrier phase for the information at the secondary frequency from an initial carrier phase at the secondary frequency as a function of a carrier phase of the information at the primary frequency.

36. (original) The method of Claim 32 wherein (d) comprises determining the position as a function of as a function of the code phase and carrier phase of the information at the primary frequency and as a function of the carrier phase at the secondary frequency.

37. (original) A method for processing RF signals, the RF signals being received by a plurality of antennas, the RF signals comprising a primary frequency RF signal and at least one secondary frequency RF signal, the RF signals being split into a first output signal and a second output signal, the method comprising the steps of:

(a) processing the first output signal to obtain a sampled primary signal;

(b) multiplexing the second output signals to output at least one multiplexed signal;

(c) processing the multiplexed signal to obtain a sampled secondary signal;

(d) correlating the sampled primary signals to obtain code phase and carrier phase for the primary frequency RF signals;

(e) correlating the sampled secondary signals to obtain initial carrier phase for the secondary frequency RF signals; and

(f) reconstructing carrier phase of the secondary frequency RF signal using the initial carrier phase of the secondary frequency RF signal and the carrier phase of the primary frequency RF signal.

38-41. (cancelled)